



CSCC•CWIC

# Engineering Design Services





## Pont yr Odyn bridge maintenance, Trefechan

Preliminary Ecological Assessment  
and Ecological Impact Assessment

*Report prepared for:-*  
**Engineering Design Services,  
Ceredigion County Council**

**Report No.** ED3495/EcIA/1  
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## Summary

A principal inspection of Pont yr Odyn carried out in 2016 found some deterioration of bridge components which will need addressing. The current project brief is to undertake a full condition assessment of the bridge and subsequently draw up and procure required maintenance and repair works to the structure.

A preliminary ecological appraisal (PEA) of the vicinity of the bridge was carried out in June 2019. Based on the PEA and a desk study, an Ecological Impact Assessment (EclA) of the proposal has been carried out, the findings and recommendations of which are presented in this report. The river and marine habitats in the vicinity of the scheme are known to be used by some protected and priority species. The scheme will also offer the potential for ecological enhancement as required by the Environment (Wales) Act 2016.

Key impacts of the scheme in absence of mitigation would be potentially significant pollution of Afon Rheidol, potential for disturbance and barrier effects on local mammal populations if works were carried out unsympathetically, potential for disturbance of active nests on the bridge structure or in surrounding vegetation and the spread of Japanese knotweed.

It is proposed to wrap the bridge in suitable material to act as a barrier between the works (particularly sandblasting and repainting) and the river environment. All required mitigation measures are listed in Table 1 on page 6.

If all environmental and ecological mitigation and enhancement measures are implemented, the repair of the bridge will result in negligible disturbance impacts on protected species and habitats. In the medium term the works will result in a biodiversity net gain due to the implementation of minor enhancement measures for nesting birds.

## 1. Introduction

A brief to assess and address some deterioration of bridge components at Pont yr Odyn (Trefechan, SN 58429 81214) was received by EDS on 21/05/2019.

The works will include:

- 1) Replacing the bridge deck with appropriate robust deck material.
- 2) Sandblasting and repainting all structural steel elements
- 3) General concrete repairs to abutments
- 4) Parapet / handrail replacement.

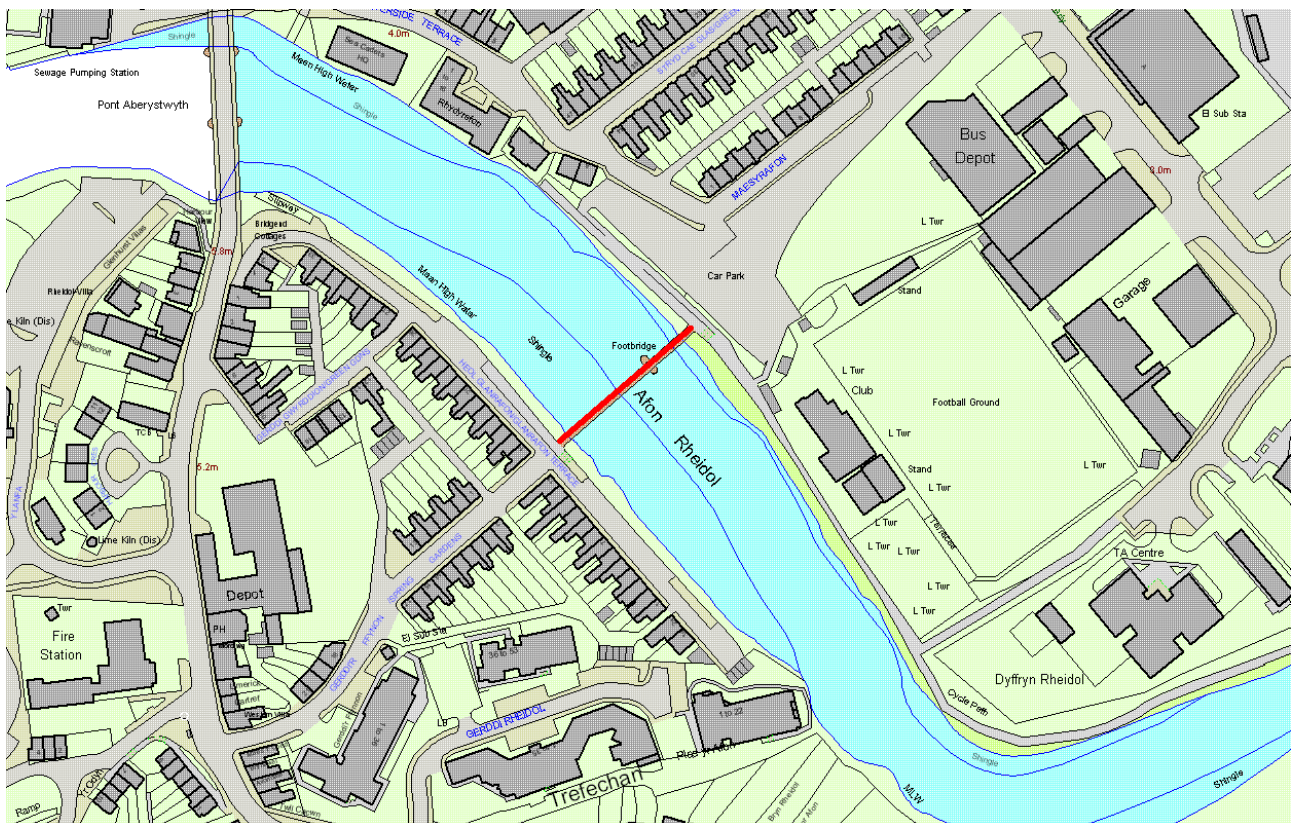


Figure 1: Indicative site location.

The survey and impact assessment were carried out by Julia Pschera BSc, MSc, highways ecologist for Ceredigion Council with more than six years' experience of ecological survey, impact assessment and reporting.

The purpose of this report is to identify habitats and features of ecological importance, assess potential impacts of the bridge maintenance works and mitigation to minimise these impacts. This report also identifies appropriate enhancement and post-completion monitoring measures where required. The preliminary ecological appraisal (PEA) and subsequent ecological impact assessment (EclA) were undertaken in accordance with CIEEM guidance.

## 2. Methodology

### 2.1 Data search

Aerial photography and maps of the area were reviewed to determine habitat types in the vicinity, connectivity of water habitat features, and infer how the scheme area may be used by priority species at present (as a connecting habitat etc.). Designated sites within 2km of the scheme were identified using the government's 'Magic' mapping ([www.magic.gov.uk](http://www.magic.gov.uk)) and species records for protected/ priority species, locally important species and those of conservation concern were obtained from the West Wales Biodiversity Information Centre (WWBIC) on 06/06/2019 on a radius of 500m around the bridge.

### 2.2 Field survey

The survey was carried out on 10/06/2019 in suitable weather conditions (dry and bright). It followed the standard methodology for Phase 1 Habitat survey (JNCC 2010). In addition, the survey included an assessment of habitat suitability and a search for field signs of any protected or priority species which could potentially make use of the site or be impacted by the bridge maintenance works. As the scheme is for maintenance works to the existing bridge structure without any further land take, no habitat map was drawn up.

#### Badger

The site was assessed for its suitability for foraging and sett creation. Any incidental badger signs such as paths, setts, latrines, footprints or foraging signs were recorded if encountered.

#### Bats

A preliminary assessment of bat roosting, foraging and commuting potential was undertaken.

#### Otter

Otters are known to make use of all watercourses in Wales as well as most water bodies and many terrestrial habitats. The survey included an assessment of potential for otter resting, commuting and feeding and incidental signs such as spraints and footprints were recorded.

#### Water vole

Any watercourses and waterbodies were assessed for water vole suitability.

#### Reptiles

The habitats on site were assessed for their potential to support reptiles based on vegetation composition and structure as well as availability of shelter, food and connectivity with other suitable habitats.

#### Nesting (& wintering) birds

An assessment for habitat suitability for nesting as well as wintering birds was undertaken.

### Invasive and other species

Incidental sightings of other animal or plant species such as UK, national and local priority species and any invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 were also recorded.

### Limitations

As far as recording of protected species of fauna is concerned, a one-off survey visit is not sufficient to confirm absence unless the habitat is clearly unsuitable. Species impact assessment is therefore largely based on presumed presence based on habitat suitability and existing records rather than proven presence.

## **2.3 Assessment method**

Significance of designated sites, species, features and habitats was determined in accordance with their legal and/ or policy status in Wales and Ceredigion where applicable. The assessment methodology followed industry standards (CIEEM 2018).

## **3. Results**

### **3.1 Data search**

#### Designated sites

Pont yr Odyn is not located within any designated sites for nature conservation. West Wales Marine Special Area of Conservation (SAC) is located approximately 380m downstream from the bridge, where Afon Rheidol enters the sea. There are no other designated sites within the scheme's potential zone of influence.

#### Protected species and habitat records

The WWBIC record search returned 1,076 records of 263 species on a search radius of 500m. Records within the vicinity of the bridge include various bird species such as kingfisher, house sparrow, dunnock, mute swan and whooper swan; plant species such as red fescue, sea-milkwort, lesser sea-spurrey, sea arrowgrass, common whitebeam and sea aster; mammals such as *Pipistrellus* and unidentified bat species, otter, and hedgehog as well as a couple of beetles (*Aepus marinus* & *A. robinii*).

### **3.2 Field survey**

#### Afon Rheidol

The river was approximately 40m wide on the day of the survey and fairly fast flowing. No fish were seen.

#### Badger

The semi-natural bank habitat on both sides of the river is unsuitable for badgers due to fairly high levels of human disturbance and frequent flooding.

### Bats

The structure of the bridge offers negligible potential for roosting bats.

The river corridor is likely to be used as a foraging and commuting habitat by local bats.

### Otter

Otters are known to be present along the Rheidol. No suitable features for otter resting or breeding within 50m of the bridge were identified, but it must be assumed that otters frequently travel along the river and its banks.

### Water vole

The river banks in the vicinity of the bridge offer at best sub-optimal water vole habitat. No burrows, latrines or feeding stations were found during the survey.

### Reptiles & Amphibians

Habitat potential is negligible due to fast flowing water and frequent flooding of the river banks as well as the fact that the site is largely enclosed by built-up areas.

### Nesting (& wintering) birds

Wintering bird potential is negligible. There is potential for bird nesting in any nooks and crannies on the bridge; however, no nests were seen during the survey visit. The young trees and scrub on the river banks near the bridge also offer potential for bird nesting.

### Invasive species

Stands of Japanese knotweed (*Fallopia japonica*) were seen on both banks upstream of the bridge.

## 4. Assessment & Recommendations

Table 1: Impact assessment and required mitigation.

Feature	Impacts without mitigation	Mitigation measures	Residual effects
Designated sites	<ul style="list-style-type: none"> <li>Potential for some pollution to West Wales Marine SAC.</li> <li>Negligible potential for impacts on the designation feature (harbour porpoise).</li> </ul>	<ul style="list-style-type: none"> <li>The bridge is to be covered in scaffolding and wrapped in a suitable sheet material prior to sandblasting and repainting.</li> <li>Work in accordance with current pollution prevention guidelines (GPP 5- Works and maintenance in and near water).</li> </ul>	Negligible
Afon Rheidol (river)	<ul style="list-style-type: none"> <li>Potential for significant pollution impact from works at Pont yr Odyn.</li> </ul>	<ul style="list-style-type: none"> <li>See above. FRAP exemption 9 should apply to the works.</li> </ul>	Negligible
Badger	<ul style="list-style-type: none"> <li>Negligible</li> </ul>	<ul style="list-style-type: none"> <li>n/a</li> </ul>	Negligible
Bats	<ul style="list-style-type: none"> <li>Potential for temporary disruption of commuting and foraging activity if works were to include night time working.</li> </ul>	<ul style="list-style-type: none"> <li>All repair and maintenance works to be carried out during daylight hours.</li> <li>In the (unlikely) event that bats are encountered during works, works in the area to stop and the highways ecologist to be contacted for advice.</li> </ul>	Negligible
Otter	<ul style="list-style-type: none"> <li>Potential for disturbance and barrier effects if works carried out unsympathetically.</li> </ul>	<ul style="list-style-type: none"> <li>All repair and maintenance works to be carried out during daylight hours.</li> <li>Any scaffolding and other equipment required for the works to be set up so that a clear passage for otters is maintained along both river banks.</li> </ul>	Negligible
Water vole	<ul style="list-style-type: none"> <li>Negligible</li> </ul>	<ul style="list-style-type: none"> <li>n/a</li> </ul>	Negligible
Reptiles & Amphibians	<ul style="list-style-type: none"> <li>Negligible</li> </ul>	<ul style="list-style-type: none"> <li>n/a</li> </ul>	Negligible
Nesting birds	<ul style="list-style-type: none"> <li>Potential for disturbance of active nests on the bridge structure or in surrounding vegetation.</li> </ul>	<ul style="list-style-type: none"> <li>In the (unlikely) event that active nests are found on the bridge, works in the area to stop and the highways ecologist to be contacted for advice.</li> <li>If any vegetation clearance becomes necessary to enable the works, this shall be carried out between September and February inclusive or subject to a nesting bird check by the highways ecologist.</li> </ul>	Negligible
Invasive species	<ul style="list-style-type: none"> <li>Potential for Japanese knotweed to be spread.</li> </ul>	<ul style="list-style-type: none"> <li>Soil and silt to be removed from all tools, equipment and machinery before leaving site.</li> </ul>	Negligible
Enhancement	<ul style="list-style-type: none"> <li>As a local authority, Ceredigion County Council has a duty under Section 6 of the Environment (Wales) Act (2016) to enhance biodiversity in the exercise of its functions.</li> </ul>	<ul style="list-style-type: none"> <li>The bridge structure may already offer bird nesting opportunities, e.g. in the corners of H-beams. If possible, these should be improved by adding in of a couple of nest boxes suitable for different species.</li> </ul>	Positive

## **5. Conclusions**

If all environmental and ecological mitigation and enhancement measures are implemented, the scheme will have a short-term negative effect on local and county nature conservation interest. In the medium to long term it has the potential to result in a net gain for biodiversity if replacement and compensatory habitat features are managed appropriately and major failures replaced.

## **6. References**

CIEEM (2013) Guidelines for Preliminary Ecological Appraisal. Chartered Institute of Ecology and Environmental Management, Winchester

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester

JNCC (2010) Handbook for Phase 1 habitat survey - A technique for environmental audit. Joint Nature Conservation Committee, Peterborough

## Appendix 1 – Site photos

View of Pont yr Odyn from northern upstream bank



River bank at northern end of bridge



River bank at southern end of bridge



Downstream view from centre of bridge

